

Docket No.: 43890-513

#4
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of

Osamu SAMESHIMA, et al.

Serial No.: 09/843,152



Group Art Unit:

Filed: April 27, 2001

Examiner:

For: WIRELESS DISPLAY SYSTEM FOR OPERATING AND MONITORING
PLURAL PERSONAL COMPUTERS

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, DC 20231

Sir:

Prior to examination of the above-referenced application, please amend the application as follows:

IN THE TITLE:

Please amend the Title as follows:

Wireless display system for [operating and] monitoring and operating plural personal computers.

IN THE SPECIFICATION:

Please amend Page 3, lines 16 and 22 as follows:

As shown in Fig. 2, the personal computer 200 has a wireless communication [control] processing unit 205, in addition to basic components of personal computer comprising a storage device 201, a display unit 202, a main control unit 203, and an operation input unit 204. (The personal computer also comprises other components, but those not relating directly to the invention are omitted.)

The wireless communication [control] processing unit 205 acquires display data displayed in the display unit 202, converts into transmission data having a protocol format conforming to the wireless communication system with the wireless display 300, and transmits by wireless means.

Wireless display system for [operating and] monitoring and operating plural personal computers.

Please amend Page 5, lines 2 and 8 as follows:

For acquisition of display data by the wireless [control] communication processing unit 205, from the viewpoint of operating speed, it is preferred to read the content of the so-called graphic memory storing the display content in the display unit 202 by hardware means. Further, instead of transmitting all the acquired display content, it is preferred to hold the immediately preceding display content in the storage device provided in the wireless [control] communication processing unit 205, compare with newly acquired display content, and transmit only the changed portion, and therefore the quantity of data is curtailed, and the operating speed is made faster. These methods of acquiring the display content are not essential for the invention, but may be realized by other method, for example, by using a system service presented by the OS (such as BitBlt reading in Windows system) for specifying the screen position and reading the display content. In such a case, the operating speed is not so fast, but the circuit for reading the graphic memory by hardware means can be simplified, and the cost can be lowered.

Please amend Page 6, lines 5-8,11,14-17, 19, 21, 23-24, 26 as follows:

[The wireless display of embodiment 2 shown in Fig. 4 comprises a touch panel 304, in addition to the wireless display of embodiment 1 shown in Fig. 3.] In embodiment 2, the wireless display 400 shown in Fig. 4 takes the place of the wireless display 300 in the wireless display system 100 shown in Fig. 1, and comprises a touch panel 404, in addition to the wireless display 300 shown in Fig. 3 and explained in embodiment 1.

The touch panel [304] 404 is a transparent film device capable of recognizing the contact position and contact data (make or break) when the panel is touched, and it is installed on the display unit [303] 403 for covering it. When the user touches the display position of the screen of a desired personal computer among screens of plural personal computers divided and displayed simultaneously in the display unit [303] 403, the touch panel [304] 404 creates operation data and transfers to the connection management unit [302] 402.

The connection management unit [302] 402 receives the operation data from the touch panel [304] 404, and identifies the machine number of the personal computer of the intended operation, and transfers to the wireless communication processing unit [301] 401 to transmit to the intended personal computer. That is, judging the contact position belongs to which region of the display unit [303] 403, it is designed to transmit to the personal computer corresponding to the region through the wireless communication processing unit [301] 401.

The wireless communication processing unit [301] 401 converts the operation data received from the connection management unit [302] 402 into transmission data of protocol format conforming to the wireless communication system, and transmits to the wireless communication processing unit 205 of the intended personal computer.

Please amend Page 7, lines 2-3, and 14 as follows:

The wireless communication [control] processing unit 205 receives the transmission data sent from the wireless display [300] 400, converts into operation input data having the same format as the operation data created by manipulation of keyboard or pointing device (such as mouse) of the personal computer 200, and transfers to the operation input unit 204.

The operation input unit 204 receives the operation input data, interprets it as the same input as the manipulation of keyboard or pointing device (such as mouse) of the personal computer 200, and transfers to the main control unit 203. The main control unit 203 controls same as in ordinary input, displays the result in the display unit 202, and further displays in the display unit [303] 403 of the wireless display 300 by the same procedure as explained in embodiment 1.

IN THE DRAWINGS:

Please amend Figures 2-4 as as shown on the marked-up copies enclosed herewith.

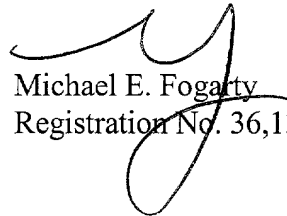
The revised paragraphs of the application incorporating the foregoing amendments are attached in Appendix A.

REMARKS

Entry of this preliminary amendment is respectfully requested.

Respectfully submitted,

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APPENDIX A

IN THE TITLE:

Wireless display system for monitoring and operating plural personal computers.

IN THE SPECIFICATION:

Page 3, lines 16 and 22

As shown in Fig. 2, the personal computer 200 has a wireless communication processing unit 205, in addition to basic components of personal computer comprising a storage device 201, a display unit 202, a main control unit 203, and an operation input unit 204. (The personal computer also comprises other components, but those not relating directly to the invention are omitted.)

The wireless communication processing unit 205 acquires display data displayed in the display unit 202, converts into transmission data having a protocol format conforming to the wireless communication system with the wireless display 300, and transmits by wireless means.

For acquisition of display data by the wireless communication processing unit 205, from the viewpoint of operating speed, it is preferred to read the content of the so-called graphic memory storing the display content in the display unit 202 by hardware means. Further, instead of transmitting all the acquired display content, it is preferred to hold the immediately preceding display content in the storage device provided in the wireless communication processing unit 205, compare with newly acquired display content, and transmit only the changed portion, and therefore the quantity of data is curtailed, and the operating speed is made faster. These methods of acquiring the display content are not essential for the invention, but may be realized by other method, for example, by using a system service presented by the OS (such as BitBlt reading in Windows system) for specifying the screen position and reading the display content. In such a case, the operating speed is not so fast, but the circuit for reading the graphic memory by hardware means can be simplified, and the cost can be lowered.

In embodiment 2, the wireless display 400 shown in Fig. 4 takes the place of the wireless display 300 in the wireless display system 100 shown in Fig. 1, and comprises a touch panel 404, in addition to the wireless display 300 shown in Fig. 3 and explained in embodiment 1.

The touch panel 404 is a transparent film device capable of recognizing the contact position and contact data (make or break) when the panel is touched, and it is installed on the display unit 403 for covering it. When the user touches the display position of the screen of a desired personal computer among screens of plural personal computers divided and displayed simultaneously in the display unit 403, the touch panel 404 creates operation data and transfers to the connection management unit 402.

The connection management unit 402 receives the operation data from the touch panel 404, and identifies the machine number of the personal computer of the intended operation, and transfers to the wireless communication processing unit 401 to transmit to the intended personal computer. That is, judging the contact position belongs to which region of the display unit 403, it is designed to transmit to the personal computer corresponding to the region through the wireless communication processing unit 401.

The wireless communication processing unit 401 converts the operation data received from the connection management unit 402 into transmission data of protocol format conforming to the wireless communication system, and transmits to the wireless communication processing unit 205 of the intended personal computer.

The wireless communication processing unit 205 receives the transmission data sent from the wireless display 400, converts into operation input data having the same format as the operation data created by manipulation of keyboard or pointing device (such as mouse) of the personal computer 200, and transfers to the operation input unit 204.

The operation input unit 204 receives the operation input data, interprets it as the same input as the manipulation of keyboard or pointing device (such as mouse) of the personal computer 200, and transfers to the main control unit 203. The main control unit 203 controls same as in ordinary input, displays the result in the display unit 202, and further displays in the display unit 403 of the wireless display 300 by the same procedure as explained in embodiment 1.